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10/532,686	01/20/2006	Giampiero Morini	FE 6070 (US)	4380

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EXAMINER	
KRYLOVA, IRINA	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/532,686	MORINI ET AL.	
	Examiner	Art Unit	
	Irina Krylova	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 November 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *28-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *28-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed by Applicant on October 26, 2009 with supplemental response filed on November 24, 2009 have been fully considered. Cancellation of claims 1-27 and addition of claims 28-53 are acknowledged.

2. The Declaration under 37 C.F.R. 1.132 filed by Applicant on November 24, 2009 has been fully considered. In light of cancellation of claims 1-27 and Declaration filed by Applicant on November 24, 2009, all previous prior art rejections are withdrawn. Given that all previously presented claims have been cancelled and new ones have been presented and, further, since limitations concerning reactivity ratios and content of butene-1 units in form of isotactic pentads comprising new values, have been introduced, these would necessitate a new search and examination in light of which a final is proper.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 28-39, 48-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Masaki et al** (EP 640,624).

4. Masaki et al discloses olefin copolymers and a process for producing olefin copolymers (p.2, lines 5-6) which can provide a polyolefin having extremely high melting point and a high stereoregularity (p.2, lines 5-6; p. 3, lines 33-35), wherein the process is advantageous for stereospecific polymerization of an alpha-olefin having 3 or more carbon atoms (butene -1, cited in p. 7, line 25), such as mixture of these olefins with ethylene (p. 7, lines 25-27) butene-1, where the process comprises copolymerizing the above mentioned olefins in the presence of the catalyst system (as to instant claim 50), where the catalyst comprises:

A) titanium, magnesium, halogen components;

B) an organic aluminum compound; and

C) an external donor organic silicon compound represented by the formula:

(R1O)3 – Si - C (CH3)2 CH (R2)(R3);

where R1 is methyl, R2, R3 represent C1-3 hydrocarbon group (page 3, lines 33-55). Component A) comprises titanium compounds on magnesium chloride and phthalates as internal donors (page 4, lines 15-55). Aluminum compound comprises an alkylaluminum compound (page 6, lines 2-30).

As to instant claim 51, the external donor silicon compound comprises thexyltrimethoxysilane (page 7, lines 1-23).

As to instant claim 52, the polymerization is carried out in a liquid monomer (page 7, lines 45-50) and, as to instant claim 53, in two stages under different reaction conditions (page 7, lines 48-49).

5. **Masaki et al** discloses a process for producing a high **stereoregular** polyolefin of 3 or more carbon atoms, including butene-1 copolymer with ethylene (p. 7, lines 25-27). Though **Masaki et al** does not explicitly specify the relative contents of the butene-1 and ethylene monomers, nevertheless, since the process is most advantageous for polymerization of alpha-olefins having 3 carbon atoms or more, therefore, it would have been obvious to a one skilled in the art at the time of the invention was made that butene-1 monomer would be a major monomer copolymerized with a minor monomer of ethylene.

6. Though **Masaki et al** does not specify the copolymer being random, having r1.r2 reactivity ratios being 1.5 or less, or specific isotacticity value of butene-1 units in the copolymer and polydispersity index, nevertheless, since the copolymer of **Masaki et al** is produced by the same process, including the same catalyst system as claimed in the instant invention, therefore, such properties as product reactivity ratios, content of butene-1 units in form of isotactic pentads, and absence of 4,1 insertions of butene units, will intrinsically be present in the butene-1 copolymer of **Masaki et al** within the same ranges as claimed in the instant invention. “Products of identical chemical composition can not have mutually exclusive properties” (See MPEP 2112.01).

7. Claims 28-39, 48-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Masaki et al** (EP 640,624) in view of **Fukui et al** (US 4,600,762) and **Cozewith et al** (US 2002/0004575).

8. The discussion with respect to **Masaki et al** (EP 640,624) set forth in paragraphs 3-6 above, is incorporated here by reference.

9. Masaki et al fails to specify the product reactivity ratio, a content of isotactic pentads and absence of 4,1-insertions of butene units.

10. Fukui et al disclose process for producing **random butene-1** copolymer with propylene comprising polymerizing the monomers in the presence of the same catalyst system comprising:

1) titanium catalyst component containing magnesium, titanium, halogen and a diester electron donor comprising phthalates;

2) an organoaluminum compound, and

3) an organic silicon compound having the following formula:

RnSi(OR1)4-n, where R are alkyl, cycloalkyl or aryl; n=1 (See col. 11 lines 34-68 in **Fukui et al).**

11. As it is known in the art, a copolymer having reactivity ratio product of r1.r2 being 0.6-1.5 is considered to be random (see [0105] of **Cozewith et al**). Therefore, since

Fukui et al specify the copolymer, produced by the process using the identical catalyst system as disclosed by **Masaki et al** and as claimed in the instant invention, as being random, therefore, the copolymer of **Masaki et al** would intrinsically be random and its product reactivity range will intrinsically fall within the same ranges as claimed in the instant invention.

12. Claims 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hwo** (US 4,960,820) (**Hwo '820**) in view of **Masaki et al** (EP 640,624), **Fukui et al** (US 4,600,762) and **Cozewith et al** (US 2002/0004575).

13. Hwo '820 discloses a blend comprising:

1) 10% by weight of copolymer of butene-1 with 1-30% of another alpha olefin, wherein butene-1 units having about 98% isotactic portions, and

2) 90% of propylene copolymer having 1-30% mol of another alpha olefin comonomer (col. 2, lines 32-65). The comonomer comprises ethylene or butene (col. 3, lines 30-32). The composition comprises an improved processing properties and good optics (col. 1, lines 33-35).

14. Hwo'820 fails to teach the copolymer of butene-1 with 1-30% of another alpha olefin having the product reactivity ratio of 1.5 or less, a content of isotactic pentads > 98.5% and having no 4,1-insertions of butene units.

15. Masaki et al discloses a butene-1 copolymer having extremely high melting point and a high stereoregularity produced by a process comprising copolymerizing butene-1 and other alpha-olefins in the presence of the catalyst system where the catalyst comprises:

A) titanium, magnesium, halogen components;

B) an organic aluminum compound; and

C) an external donor organic silicon compound represented by the formula:

(R1O)3 – Si - C (CH3)2 CH (R2)(R3);

where R1, R2, R3 represent hydrocarbon group (page 3, lines 33-55). Component A) comprises titanium compounds on magnesium chloride and phthalates as internal donors (page 4, lines 15-55). Aluminum compound comprises an alkylaluminum compound (page 6, lines 2-30).

Since the butene-1 copolymer of **Masaki et al** is produced by the same process in the presence of the same catalyst as claimed in the instant invention, therefore, its properties will intrinsically be identical to the properties as claimed in the instant invention.

16. Furthermore, **Fukui et al** disclose processe for producing **random butene-1** copolymer with propylene comprising polymerizing the monomers in the presence of a the same catalyst system comprising:

1) titanium catalyst component containing magnesium, titanium, halogen and a diester electron donor comprising phthalates;

2) an organoaluminum compound, and

3) an organic silicon compound having the following formula:

RnSi(OR1)4-n, where R are alkyl, cycloalkyl or aryl; n=1 (See col. 11 lines 34-68 in **Fukui et al).**

17. As it is known in the art, a copolymer having reactivity ratio product of r1.r2 being 0.6-1.5 is considered to be random (see [0105] of **Cozewith et al**). Therefore, since **Fukui et al** specify the copolymer, produced by the process using the identical catalyst system as disclosed by **Masaki et al** and as claimed in the instant invention, as being random, therefore, the copolymer of **Masaki et al** would intrinsically be random and its product reactivity range will intrinsically fall within the same ranges as claimed in the instant invention.

18. Since

1) Hwo '820 discloses a blend comprising:

a) 10% by weight of copolymer of butene-1 with 1-30% of another alpha olefin, wherein butene-1 units having about 98% isotactic portions, and

b) 90% of propylene copolymer having 1-30% mol of another alpha olefin comonomer comprising ethylene or butene, wherein the composition comprises an improved processing properties and good optics (see col. 1, lines 34-35); but fails to specify the copolymer of butene-1 with 1-30% of another alpha olefin having specific properties such as the product reactivity ratio of 1.5 or less, a content of isotactic pentads > 98.5% and having no 4,1-insertions of butene units;

2) **Masaki et al** discloses a butene-1 copolymer having extremely high melting point and a high stereoregularity produced by the same process, in the presence of the same catalyst as those claimed in the instant invention, and thus having properties intrinsically identical to the properties as claimed in the instant invention;

therefore,

it would have been obvious to a one of ordinary skill in the art to substitute the isotactic copolymer of butene-1 with 1-30% of another alpha olefin of **Hwo '820** for the equivalent isotactic butene-1 copolymer having extremely high melting point and a high stereoregularity of **Masaki et al** for the same purpose of preparing a composition having improved processing properties and good optics (see MPEP 2144.06 (II)). Case law holds that the selection of a known material based on its suitability for its intended use supports prima facie obviousness. Sinclair & Carroll Co vs. Interchemical Corp., 325 US 327, 65 USPQ 297 (1045). Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See In re Ruff 118 USPQ 343 (CCPA 1958).

19. Claims 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Collina et al** (US 6,180,720) in view of **Masaki et al** (EP 640,624), **Fukui et al** (US 4,600,762) and **Cozewith et al** (US 2002/0004575).

20. Collina et al discloses a polyolefin mixture comprising:

1) 3-25% of crystalline isotactic copolymers of butene-1 with 0.5-30% of an olefinic comonomer selected from ethylene and propylene (col. 8, lines 51-55); and

2) 75-97% by weight of polyolefin composition comprising a copolymer of propylene with ethylene and/or an alpha olefin having the formula CH2=CHR, wherein R is C2-C8 alkyl (col. 8, lines 28-50).

The mixture comprises good tensile strength (col. 1, lines 35-36).

21. Collina et al fails to teach the copolymer of butene-1 with 1-30% of another alpha olefin having the product reactivity ratio of 1.5 or less, a content of isotactic pentads > 98.5% and having no 4,1-insertions of butene units.

22. Masaki et al discloses a butene-1 copolymer having extremely high melting point and a high stereoregularity produced by a process comprising copolymerizing butene and other alpha-olefins in the presence of the catalyst system where the catalyst comprises:

A) titanium, magnesium, halogen components;

B) an organic aluminum compound; and

C) an external donor organic silicon compound represented by the formula:

(R1O)3 – Si - C (CH3)2 CH (R2)(R3);

where R1, R2, R3 represent hydrocarbon group (page 3, lines 33-55). Component A) comprises titanium compounds on magnesium chloride and phthalates as internal

donors (page 4, lines 15-55). Aluminum compound comprises an alkylaluminum compound (page 6, lines 2-30).

Since the butene-1 copolymer of **Masaki et al** is produced by the same process as claimed in the instant invention, therefore, its properties will intrinsically be identical to the properties as claimed in the instant invention.

23. Furthermore, **Fukui et al** disclose processes for producing **random butene-1** copolymer with propylene comprising polymerizing the monomers in the presence of a the same catalyst system comprising:

1) titanium catalyst component containing magnesium, titanium, halogen and a diester electron donor comprising phthalates;

2) an organoaluminum compound, and

3) an organic silicon compound having the following formula:

RnSi(OR1)4-n, where R are alkyl, cycloalkyl or aryl; n=1 (See col. 11 lines 34-68 in **Fukui et al).**

24. As it is known in the art, a copolymer having reactivity ratio product of r1.r2 being 0.6-1.5 is considered to be random (see [0105] of **Cozewith et al**). Therefore, since **Fukui et al** specify the copolymer, produced by the process using the identical catalyst system as disclosed by **Masaki et al** and as claimed in the instant invention, as being random, therefore, the copolymer of **Masaki et al** would intrinsically be random and its product reactivity range will intrinsically fall within the same ranges as claimed in the instant invention.

25. Since

1) **Collina et al** discloses a polyolefin mixture comprising:

a) 3-25% of crystalline isotactic copolymers of butene-1 with 0.5-30% of an olefinic comonomer selected from ethylene and propylene and

b) 75-97% by weight of polyolefin composition comprising a copolymer of propylene with ethylene and/or an alpha olefin having the formula CH2=CHR, wherein R is C2 , wherein he mixture comprises good tensile strength (col. 1, lines 35-36); but fails to teach the copolymer of butene-1 with 1-30% of another alpha olefin having the product reactivity ratio of 1.5 or less, a content of isotactic pentads > 98.5% and having no 4,1-insertions of butene units;

2) **Masaki et al** discloses a butene-1 copolymer having extremely high melting point and a high stereoregularity produced by the same process as claimed in the instant invention, and thus, having properties intrinsically identical to the properties as claimed in the instant invention; therefore,

it would have been obvious to a one of ordinary skill in the art to substitute the isotactic copolymer of butene-1 with 0.5-30% of another alpha olefin of **Collina et al** for the equivalent isotactic butene-1 copolymer having extremely high melting point and a high stereoregularity of **Masaki et al** for the same purpose of preparing a composition having improved tensile strength (see MPEP 2144.06 (II)). Case law holds that the selection of a known material based on its suitability for its intended use supports prima facie obviousness. Sinclair & Carroll Co vs. Interchemical Corp., 325 US 327, 65 USPQ 297 (1045). Case law holds that the mere substitution of an equivalent (something equal in

value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See In re Ruff 118 USPQ 343 (CCPA 1958).

26. Claims 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mulas et al** (US 6,465,574) in view of **Masaki et al** (EP 640,624), **Fukui et al** (US 4,600,762) and **Cozewith et al** (US 2002/0004575).

27. Mulas et al discloses a polymer composition comprising:

1) 5-100 pbw of a **crystalline isotactic copolymer of butene-1** containing 2-10%wt of an ethylene or propylene copolymer (col. 2, lines 23-35);

2) 0-95 pbw of an **elastomeric polyolefin composition** comprising a copolymer of ethylene with a comonomer of the formula CH2=CHR, where R is C2, containing ethylene in quantities of less than 40% (col. 3, lines 1-10). The comonomer comprises 1-butene (col. 3, lines 59-60).

The composition comprises good degree of softness and good mechanical properties (col. 1, lines 38-42).

28. Mulas et al fails to teach the crystalline and elastomeric butene-1 copolymers having the product reactivity ratio of 1.5 or less, a content of isotactic pentads > 98.5% and having no 4,1-insertions of butene units.

29. Masaki et al discloses a butene-1 copolymer having extremely high melting point and a high stereoregularity produced by a process comprising copolymerizing butene and other alpha-olefins in the presence of the catalyst system where the catalyst comprises:

A) titanium, magnesium, halogen components;

B) an organic aluminum compound; and

C) an external donor organic silicon compound represented by the formula:

(R1O)3 – Si - C (CH3)2 CH (R2)(R3);

where R1, R2, R3 represent hydrocarbon group (page 3, lines 33-55). Component A) comprises titanium compounds on magnesium chloride and phthalates as internal donors (page 4, lines 15-55). Aluminum compound comprises an alkylaluminum compound (page 6, lines 2-30).

Since the butene-1 copolymer of **Masaki et al** is produced by the same process as claimed in the instant invention, therefore, its properties will intrinsically be identical to the properties as claimed in the instant invention.

30. Furthermore, **Fukui et al** disclose processes for producing **random butene-1** copolymer with propylene comprising polymerizing the monomers in the presence of a the same catalyst system comprising:

1) titanium catalyst component containing magnesium, titanium, halogen and a diester electron donor comprising phthalates;

2) an organoaluminum compound, and

3) an organic silicon compound having the following formula:

RnSi(OR1)4-n, where R are alkyl, cycloalkyl or aryl; n=1 (See col. 11 lines 34-68 in **Fukui et al).**

31. As it is known in the art, a copolymer having reactivity ratio product of r1.r2 being 0.6-1.5 is considered to be random (see [0105] of **Cozewith et al**). Therefore, since **Fukui et al** specify the copolymer, produced by the process using the identical catalyst system as disclosed by **Masaki et al** and as claimed in the instant invention, as being random, therefore, the copolymer of **Masaki et al** would intrinsically be random and its product reactivity range will intrinsically fall within the same ranges as claimed in the instant invention.

32. Crystallinity and thus melting point of the (co)polymer, depend on the amount of ethylene comonomer in the polymer. Larger amount of ethylene comonomer will result in the copolymer being more amorphous and having lower melting point. Thus, by varying the amount of ethylene between 1 and 40% mole, one skilled in the art can produce the butene-1 copolymer with expected crystallinity and melting point. In addition, random isotactic butene-1 –ethylene copolymers with specific amount of ethylene units will have the same properties, which become inherent characteristics of the product. “Products of identical chemical composition can not have mutually exclusive properties” (See MPEP 2112.01).

33. Since

1) Mulas et al discloses a polymer composition comprising:

a) 5-100 pbw of a **crystalline isotactic copolymer of butene-1** containing 2-10%wt of an ethylene or propylene copolymer (col. 2, lines 23-35);

b) 0-95 pbw of an **elastomeric polyolefin composition** comprising a copolymer of ethylene with a 1-butene containing ethylene in quantities of less than 40% , wherein the composition comprises good degree of softness and good mechanical properties (col. 1, lines 38-42), but fails to fails to teach the crystalline and elastomeric butene-1 copolymers having the product reactivity ratio of 1.5 or less, a content of isotactic pentads > 9.5% and having no 4,1-insertions of butene units;

2) **Masaki et al** discloses a butene-1 copolymer having extremely high melting point and a high stereoregularity produced by the same process as claimed in the instant invention, and thus, having properties intrinsically identical to the properties as claimed in the instant invention;

3) crystallinity and thus melting point of the butene-1 copolymer, depend on the amount of ethylene comonomer in the polymer; larger amount of ethylene comonomer will result in the copolymer being more amorphous and having lower melting point;

therefore, it would have been obvious to a one of ordinary skill in the art to use the mixture of the two butene-1 copolymers of **Masaki et al** having different content of ethylene comonomers and, thus having different crystallinities and different melting points, similar to the composition of **Mulas et al** to produce a composition having good degree of softness and good mechanical properties (see col. 1, lines 38-42 in **Mulas et al**).

Response to Arguments

34. Applicant's arguments filed on October 26, 2009 and November 24, 2009 have been fully considered. In light of cancellation of claims 1-27 and Declaration filed by Applicant on November 24, 2009, all previous prior art rejections are withdrawn, thus rendering Applicant's arguments moot. The new grounds of rejections necessitated by Applicant's amendment are set forth above.

35. Regarding the previous rejections cited in an Office Action of July 24, 2009, Applicant argues that nowhere in the cited documents the currently claimed butene-1 copolymers are disclosed, i.e. butene-1 copolymers having a reactivity ratios of 1.5 or less, isotactic pentads greater than 98.5% of butene-1 units and absence of 4, 1 insertions.

36. Examiner disagrees.

Masaki et al (EP 640,624) alone or in view of **Fukui et al** (US 4,600,762) and **Cozewith et al** (US 2002/0004575) disclose polyolefin copolymers including butene-1 copolymers, produced by the process identical to that claimed in the instant invention and in the presence of the catalyst system identical to that claimed in the instant invention. Though **Masaki et al** does not specify the produced copolymers having reactivity ratios of 1.5 or less, isotactic pentads greater than 98.5% of butene-1 units and absence of 4, 1 insertions, however, since the butene-1 copolymers of **Masaki et al** are produced in the presence of the same catalyst system as claimed in the instant

invention, therefore, the properties of the produced copolymers will intrinsically be identical to those claimed in the instant invention. Furthermore, the Declaration filed by Applicant on November 24, 2009 does not include any examples of butene-1 copolymers produced in the presence of catalyst system disclosed in **Masaki et al** (EP 640,624) or **Fukui et al** (US 4,600,762).

In addition, **Fukui et al** discloses the butene-1 copolymers produced in the presence of catalyst system identical to that claimed in the instant invention and specified the produced butene-1 copolymer as being random. As it is known in the art, a random copolymer appears to have reactivity ratio product of r1.r2 being 0.6-1.5 (see [0105] of **Cozewith et al**).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina Krylova whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Irina Krylova/
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796